

DASGIP BioLector

Calibration Data Sheet for *pH & DO optodes*

Please enter these **calibration parameters** and the **Lot.-No.** in the BioLector software!

Lot.-No.: 1017
Filter: STD

Date of calibration: 2010/10/18
Responsible: Ritter

pH calibration parameters

Buffer	150 mM Na-Phosphate buffer, <i>CertiPUR</i> buffer pH 4.01 (25°C), <i>CertiPUR</i> buffer pH 10.00 (25°C) (18 point calibration)						
Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	53,06	52,99	52,91	52,84	52,77	52,69	52,62
ϕ max	18,34	18,30	18,25	18,21	18,16	18,12	18,07
dpH	0,57	0,57	0,57	0,57	0,57	0,57	0,57
pH ₀	6,39	6,39	6,38	6,37	6,36	6,35	6,34
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	52,55	52,47	52,40	52,33	52,25	52,18	52,11
ϕ max	18,02	17,98	17,93	17,89	17,84	17,79	17,75
dpH	0,57	0,57	0,57	0,58	0,58	0,58	0,58
pH ₀	6,33	6,32	6,31	6,30	6,29	6,28	6,27
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	52,03	51,96	51,89	51,81	51,74	51,67	51,59
ϕ max	17,70	17,66	17,61	17,56	17,52	17,47	17,43
dpH	0,58	0,58	0,58	0,58	0,58	0,58	0,58
pH ₀	6,27	6,26	6,25	6,24	6,23	6,23	6,22

Sensor properties

Dynamic range	pH 5.0-8.5
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.10 pH (pH 5-7.5); ± 0.25 pH (> pH 7.5)
Response time (t ₉₀)	At 25°C < 30 s
Drift at pH = 7	< 0.005 pH per day (sampling interval of 1 min)
Temperature range	5°C to 50°C
Compatibility	Aqueous solutions, ethanol, methanol (max. 10% v/v)
Cross-sensitivity	Reduced to ionic strength (salinity); a high concentration of fluorescent molecules in the visible range can interfere
Basic material	pH sensor HP8-1017-04

Calibration

Buffer	CertiPUR Reference Material Buffer solutions Set 2 Lot No.: HC701006 (pH 4.01 ± 0.015 / pH 10.00 ± 0.03, 25°C); 150 mM Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40°C, 1100 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flowerplate (MTP-48-BOH)
Calibration device	BioLector CX_05B82F(010)

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DO calibration parameters

Buffer	Sulfite system						
Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	71,30	71,34	71,38	71,42	71,46	71,50	71,58
φ cal100	45,04	44,85	44,65	44,46	44,26	44,07	43,88
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71,58	71,62	71,65	71,69	71,73	71,77	71,81
φ cal100	43,68	43,49	43,29	43,10	42,90	42,71	42,52
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71,85	71,89	71,93	71,97	72,01	72,05	72,09
φ cal100	42,32	42,13	41,93	41,74	41,55	41,35	41,16

Sensor properties

Dynamic range	0-100% air saturation (a.s.)
Resolution	Up to 0.1% O ₂ (software)
Accuracy	± 2% dissolved oxygen
Drift at 0% oxygen	< 0.03% O ₂ within 30 days (sampling interval of 1 min)
Response time (t ₉₀)	< 30 s
Temperature range	0-50°C
Cross-sensitivity to	Organic solvents, such as acetone, toluene, chloroform or methylene chloride Chlorine gas
Basic material	Oxygen sensor PSt3-HG-1006-01

Calibration

Calibration	0.5 M Sulfite system (Two-point calibration with oxygen-free environment (nitrogen, sodium sulfite) and air-saturated environment)
Settings	BioLector protocol: pH-DO-calibration, T = 20-40°C, 1100 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type: Flowerplate (MTP-48-BOH)
Calibration device	BioLector CX_05B82F(010)

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	30114101
Date of sterilization	2010/10/07